Version Description Document for

Common Operational Picture Sync Tool

Version 1.0.1.1 for GCCS Version 2.2

27 March 1997

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COP Sync Tool VDD

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1.0 System Overview

The Common Operational Picture (COP) Sync Tool is a segment developed for the Global Command and Control System (GCCS) Version 2.2, running Unified Build (UB) Version 3.0.1.6G. The COP Sync Tool includes the MDXNet interface, which allows the near real-time exchange of track data between participating nodes on a wide area network (WAN). The COP Sync Tool segment can be installed on either a Tactical Advanced Computer (TAC) running HP-UX™ Version 9.0.7 or a SPARC® SunStation™ computer running Solaris™ Version 2.3. The COP Sync Tool segment need only be loaded on *one* system in the LAN. For instance, if the COP Sync Tool segment is loaded on the Tdbm Master, it need not be loaded on any Tdbm slave machines.

2.0 Referenced Documents

The following document is referenced in this VDD:

- *Software User's Guide for Common Operational Picture Sync Tool Version 1.0.1.1 for GCCS Version 2.2*, 27 March 1997.

3.0 Version Description

The following subsections describe COP Sync Tool Version 1.0.1.1.

3.1 Inventory of Materials Released

The following physical media and associated documentation make up COP Version 1.0.1.1:

- One digital audio tape (DAT) labelled "COP Sync Tool 1.0.1.1 Segment Software for GCCS 2.2, 4mm Cartridge, TAC UNIX - HPUX 9.0.7, 27 March 1997."
- One DAT labelled "COP Sync Tool 1.0.1.1 Segment Software for GCCS 2.2, 8mm Cartridge, SPARC UNIX - Solaris 2.3, 27 March 1997."
- *Software User's Guide for Common Operational Picture Sync Tool Version 1.0.1.1 for GCCS Version 2.2*, 27 March 1997.
- *Version Description Document for COP Sync Tool Version 1.0.1.1 for GCCS Version 2.2*, 27 March 1997.

3.2 Software Changes

Version 1.0.1.1 is an update to Version 1.0.1.0 of the COP segment. The development of COP Version 1.0.1.1 occurred as follows:

- Version 1.0.1.1 included minor changes to bring the segment into COE compliance and enhance global data handling.
- Version 1.0.1.1 included a segment name change from the COP segment to the COP Sync Tool segment.

Version 1.0.1.0 was the initial release of the COP segment. This release ported the COP segment from the Joint Warrior Interoperability Demonstration 1996 (JWID96) into GCCS Version 2.2. The development of COP Version 1.0.1.0 occurred as follows:

- Version 1.0.0.0 provided reliable data transfer across low and high bandwidth connections; provided UID correlation of ELINT tracks; and corrected the transmission of specialty Link tracks such as Missile, PLRS, and EPLRS tracks.
- Version 1.0.1.0 corrected the following two problems to prevent data ringing: the handling of acoustic sensor data and the processing of Delete Track management messages.

4.0 Installation Instructions

For instructions on installing COP Sync Tool Version 1.0.1.1, see the *Software User's Guide for Common Operational Picture Sync Tool Version 1.0.1.1 for GCCS Version 2.2*. The COP Sync Tool segment need only be loaded on *one* system in the LAN. For instance, if the COP Sync Tool segment is loaded on the Tdbm Master, it need not be loaded on any Tdbm slave machines.

5.0 Known Problems and Errors

1. Manually updating the motion model field of a track does not cause an update to be sent throughout the MDXNet network.

2. Associations and disassociations are not handled correctly in MDXNet. More specifically, associations and disassociations are not distributed by MDXNet at the time of creation but upon the next update to one of the tracks.

   It is recommended as a Standard Operating Procedure (SOP) that associations only be performed on tracks that a node "owns" (i.e., contains UIDs matching the trigraph of the workstation).

The following are some specific anomalies with associations, disassociations, and Nu-Trk operations:

a. Broken ELINT associations do not get distributed throughout the MDXNet network properly. Locally, the association is broken. However, the disassociation is not propagated throughout the MDXNet network.

b. Nu-Tracking a link, acoustic, or ELINT track that is not owned by the local host does not get propagated correctly throughout the MDXNet network. The track appears locally as a platform, with the respective link, acoustic, or ELINT associated to it. The other MDXNet nodes see the platform as a separate, unassociated track to the respective link, acoustic, or ELINT. Nu-Tracking a link, acoustic, or ELINT that the local host *does* own is propagated correctly throughout the MDXNet network.

c. When an ambiguity is Nu-Tracked, the new track is sent via MDXNet and is received as forced ambiguity (NAME) at the other nodes. If the track is then modified to include more information, another track is sent to the other nodes. This non-ambiguous track has the same UID as the first track. If the user attempts to merge these two tracks, both are deleted.

d. If a Nu-Tracked contact is updated on TopCop, another ambiguity on the child is created. The UID of the new ambiguity is a duplicate of the ambiguity created prior to the Nu-Track update. If any of the ambiguities are deleted on the child, the Nu-Tracked contact on the TopCop is deleted as well, leaving the other ambiguities on the child with the same UID.

e. Deleting a platform track with an associated track does not work properly. Upon deletion of this type of platform track, user is prompted: “Break Association?”. If user selects “Yes”, then the platform is deleted; but the associated track remains. The platform deletion is distributed throughout the MDXNet network, but it does not delete the platform track. It only breaks the association. Since the platform track remains, it is then distributed back via MDXNet, back to the node that originally deleted the platform. Hence to the user on the original MDXNet node (the node deleting the platform track by hand), the platform is removed and then reappears.

f. Acoustic track associations are not distributed via MDXNet. Additionally, to prevent acoustic track associations via MDXNet, any data in a platform track’s TRADEMARK field is not distributed by MDXNet.

3. The EDIT MDXNET window does not validate invalid port numbers; i.e., any numerical values are assumed to be correct.

4. The EDIT MDXNET window will allow selection of MASTER NODE toggle with PARENT and LOCAL hosts set to different names.

5. When the EDIT MDXNET window displays DECODER=NONE and ENCODER=NONE, the channel can be activated without a warning message to indicate that no data will be transmitted or received. With these settings, the raw data window still shows the interface up, status and data messages being passed to the parent, which may lead user to believe the channel is properly configured when it is not.

6. Periodically, the warning of system times out of sync by > 60 seconds appears in the raw data window, even though the times are within 60 seconds.

7. HP only: When MDXNet is configured with DECODER=COPPROCESS and ENCODER=NONE, the channel will not remain activated. When the channel is run by hand, the following error message is seen: "VMdxNetRcvNotify: GetServiceCmd RETURNED ERROR for fd 5."

8. Search filter changes do not take effect until MDXNet is restarted.

9. SPA25 Tracks are not sent over MDXNet.